



## SEQUENCE LISTING

<110> FRANZOSO, GUIDO  
DESMAELE, ENRICO  
ZAZZERONI, FRANCESCA  
PAPA, SALVATORE

<120> METHODS AND COMPOSITIONS FOR MODULATING APOPTOSIS

<130> 21459-94575

<140> 10/626,905

<141> 2003-07-25

<150> PCT/US02/31548

<151> 2002-10-02

<150> 10/263,330

<151> 2002-10-02

<150> 60/328,811

<151> 2001-10-12

<150> 60/326,492

<151> 2001-10-02

<160> 53

<170> PatentIn Ver. 3.2

<210> 1

<211> 1121

<212> DNA

<213> Homo sapiens

<400> 1

```
ctagctctgt ggggaagggtt tgggctctct ggctcggatt ttgcaatttc tccctgggga 60
ctgccgtgga gccgcatcca ctgtggatta taattgcaac atgacgctgg aagagctcgt 120
ggcgtgcgac aacgcggcgc agaagatgca gacggtgacc gccgcggtgg aggagctttt 180
ggtggccgct cagcgccagg atcgccctcac agtgggggtg tacgagtcgg ccaagttgat 240
gaatgtggac ccagacagcg tggtcctctg cctcttgcc attgacgagg aggaggagga 300
tgacatcgcc ctgcaaatcc acttcacgct catccagtc ttctgctgtg acaacgacat 360
caacatcgtg cgggtgtcgg gcaatgcgcg cctggcgcag ctctggggag agccggccga 420
gacccagggc accaccgagg cccgagacct cactgtctt cccttcctac agaaccctca 480
cacggacgcc tgggaagagcc acggcttggt ggaggtggcc agctactgcg aagaaagccg 540
gggcaacaac cagtgggtcc cctacatctc tcttcaggaa cgctgaggcc ctteccagca 600
gcagaatctg ttgagttgct gccacaacaa aaaaaatata ataaatattt gaaccccctc 660
ccccccagca caaccccccc aaaacaaccc aacccacgag gaccatcggt ggcaggtcgt 720
tgagactga agagaaagag agagaggaga agggagtga gggccgctgc cgccttcccc 780
atcacggagg gtccagactg tccactcggg ggtggagtga gactgactgc aagccccacc 840
ctccttgaga ctggagctga gcgtctgcat acgagagact tgggtgaaac ttggttggtc 900
cttgtctgca ccctcgacaa gaccacactt tgggacttgg gagctggggc tgaagttgct 960
ctgtacccat gaactccag tttgcgaatt aataagagac aatctatttt gttacttgca 1020
ctgtttattc gaaccactga gagcgagatg ggaagcatag atatctatat ttttatttct 1080
actatgaggg ccttgtaata aatttctaaa gcctcaaaaa a 1121
```

<210> 2  
 <211> 161  
 <212> PRT  
 <213> Homo sapiens

<400> 2  
 Met Thr Leu Glu Glu Leu Val Ala Cys Asp Asn Ala Ala Gln Lys Met  
           1                          5                          10                          15  
 Gln Thr Val Thr Ala Ala Val Glu Glu Leu Leu Val Ala Ala Gln Arg  
                           20                          25                          30  
 Gln Asp Arg Leu Thr Val Gly Val Tyr Glu Ser Ala Lys Leu Met Asn  
                           35                          40                          45  
 Val Asp Pro Asp Ser Val Val Leu Cys Leu Leu Ala Ile Asp Glu Glu  
                           50                          55                          60  
 Glu Glu Asp Asp Ile Ala Leu Gln Ile His Phe Thr Leu Ile Gln Ser  
                           65                          70                          75                          80  
 Phe Cys Cys Asp Asn Asp Ile Asn Ile Val Arg Val Ser Gly Asn Ala  
                           85                          90                          95  
 Arg Leu Ala Gln Leu Leu Gly Glu Pro Ala Glu Thr Gln Gly Thr Thr  
                           100                          105                          110  
 Glu Ala Arg Asp Leu His Cys Leu Pro Phe Leu Gln Asn Pro His Thr  
                           115                          120                          125  
 Asp Ala Trp Lys Ser His Gly Leu Val Glu Val Ala Ser Tyr Cys Glu  
                           130                          135                          140  
 Glu Ser Arg Gly Asn Asn Gln Trp Val Pro Tyr Ile Ser Leu Gln Glu  
                           145                          150                          155                          160  
 Arg

<210> 3  
 <211> 1305  
 <212> DNA  
 <213> Mus musculus

<400> 3  
 ggtctgcgtt catctctgtc ttcttggatt aatttcgagg gggattttgc aatcttcttt 60  
 ttacccttac ttttttcttg ggaaggggaag tcccacgcgc tccggaaggc ctccgacact 120  
 tctggtcgca cggaaggtt tttttgcctc ttgggttcgt atctggactt gtactttgct 180  
 cttggggatc ttccgtgggg gtccgctgtg gagtgtgact gcatcatgac cctggaagag 240  
 ctggtggcga gcgacaacgc gggtcagaag atgcaggcgg tgactgccgc ggtggagcag 300  
 ctgctggtgg ccgcgcagcg tcaggatcgc ctcaccgtgg ggggtgtacga ggcggccaaa 360  
 ctgatgaatg tggaccccgca cagcgtggtc ttgtgcctcc tggccataga cgaagaagag 420  
 gaggatgata tcgctctgca gattcacttc accctgatcc agtcgttctg ctgcgacaat 480  
 gacattgaca tcgtccgggt atcaggcatg cagaggctgg cgcagctcct gggggagccg 540  
 gcggagacat tgggcacaac cgaagcccga gacctgcact gcctcctggt cacgaactgt 600  
 catacagatt cctggaaaag ccaaggcttg gtggagggtg ccagttactg tgaagagagc 660  
 agaggcaata accaatgggt ccctatatc tctctagagg aacgctgaga cccactccaa 720  
 acatctaaag caactgtcga gttgctgtcc cctaaaaaaa gtaaataaaa tacatatattg 780

```

acagccccct catccccag aacaatccct caaaggctac cctaccctgt ataccttctg 840
ggagggggcgg agtcaccgag actgagatga ggagagggggc acgtgcgccc gcccgcctc 900
tggtgtgtgg agccaggagc agcaccacag gtggtcgccg aggtcggaag gagggcacct 960
caggcaagag gagactgaga ctttagagcc aaggcctggc agtcctgcag ccagcctctg 1020
ctcgagccg cagacgggtct ggacaccgcc gcaggggtgg ggtgaggcgt cccccaccct 1080
gcgggacagt gaactgtgca taagtacgcg gagggcgacg accctcgccg cgggaccgg 1140
gactcgagcc cgggacttcg cagctacagc acatctattt ttaattattgt gctgagcaag 1200
acagatcgct tgcataatttt taaaaatttc tactacagag acattccaat aaactcgtta 1260
agccttaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaa 1305

```

```

<210> 4
<211> 160
<212> PRT
<213> Mus musculus

```

```

<400> 4
Met Thr Leu Glu Glu Leu Val Ala Ser Asp Asn Ala Val Gln Lys Met
  1              5              10              15

Gln Ala Val Thr Ala Ala Val Glu Gln Leu Leu Val Ala Ala Gln Arg
      20              25              30

Gln Asp Arg Leu Thr Val Gly Val Tyr Glu Ala Ala Lys Leu Met Asn
      35              40              45

Val Asp Pro Asp Ser Val Val Leu Cys Leu Leu Ala Ile Asp Glu Glu
      50              55              60

Glu Glu Asp Asp Ile Ala Leu Gln Ile His Phe Thr Leu Ile Gln Ser
      65              70              75              80

Phe Cys Cys Asp Asn Asp Ile Asp Ile Val Arg Val Ser Gly Met Gln
      85              90              95

Arg Leu Ala Gln Leu Leu Gly Glu Pro Ala Glu Thr Leu Gly Thr Thr
      100             105             110

Glu Ala Arg Asp Leu His Cys Leu Leu Val Thr Asn Cys His Thr Asp
      115             120             125

Ser Trp Lys Ser Gln Gly Leu Val Glu Val Ala Ser Tyr Cys Glu Glu
      130             135             140

Ser Arg Gly Asn Asn Gln Trp Val Pro Tyr Ile Ser Leu Glu Glu Arg
      145             150             155             160

```

```

<210> 5
<211> 1355
<212> DNA
<213> Homo sapiens

```

```

<400> 5
cagtggctgg taggcagtgg ctgggaggca gcggcccaat tagtgtcgtg cggcccgtgg 60
cgaggcgagg tccggggagc gagcgagcaa gcaaggcggg aggggtggcc ggagctgcgg 120
cggctggcac aggaggagga gcccggggcg gcgaggggag gccagggcct 180
gagctgccgg agcgggcgct gtgagtgagt gcagaaagca ggcgcccgcg cgctagccgt 240

```

```

ggcaggagca gcccgcacgc cgcgctctct ccctggggcga cctgcagttt gcaatatgac 300
tttggaggaa ttctcggctg gagagcagaa gaccgaaagg atggataagg tgggggatgc 360
cctggaggaa gtgctcagca aagccctgag tcagcgcacg atcactgtcg ggggtgtacga 420
agcggccaag ctgctcaacg tcgaccccg taacgtggtg ttgtgcctgc tggcggcgga 480
cgaggacgac gacagagatg tggctctgca gatccacttc accctgatcc aggcgttttg 540
ctgcgagaac gacatcaaca tcctgcgcgt cagcaacccg ggcgggctgg cggagctcct 600
gctcttggag accgacgctg gccccgcggc gagcgagggc gccgagcagc ccccgacact 660
gcaactgcgt ctggtgacga atccacattc atctcaatgg aaggatcctg ccttaagtca 720
acttatttgt ttttgccggg aaagtgcgta catggatcaa tgggttccag tgattaatct 780
ccctgaacgg tgatggcatc tgaatgaaaa taactgaacc aaattgcact gaagtttttg 840
aaataccttt gtagttactc aagcagttac tcctacact gatgcaagga ttacagaaac 900
tgatgccaa gggctgagtg agttcaacta catgttctgg gggcccgag atagatgact 960
ttgcagatgg aaagaggtga aaatgaagaa ggaagctgtg ttgaaacaga aaaataagtc 1020
aaaaggaaca aaaattacaa agaaccatgc aggaaggaaa actatgtatt aatttagaat 1080
ggttgagtta cattaataa aaccaaatat gttaaagttt aagtgtgcag ccatagtttg 1140
ggatattttg gtttatatgc cctcaagtaa aagaaaagcc gaaagggtta atcatatttg 1200
aaaaccatat tttattgtat ttgatgaga tattaaattc tcaaagtttt attataaatt 1260
ctactaagtt attttatgac atgaaaagtt atttatgcta taaatttttt gaaacacaat 1320
acctacaata aactggtatg aataattgca tcatt 1355

```

<210> 6

<211> 165

<212> PRT

<213> Mus musculus

<400> 6

```

Met Thr Leu Glu Glu Phe Ser Ala Gly Glu Gln Lys Thr Glu Arg Met
 1              5              10              15

Asp Lys Val Gly Asp Ala Leu Glu Glu Val Leu Ser Lys Ala Leu Ser
 20              25              30

Gln Arg Thr Ile Thr Val Gly Val Tyr Glu Ala Ala Lys Leu Leu Asn
 35              40              45

Val Asp Pro Asp Asn Val Val Leu Cys Leu Leu Ala Ala Asp Glu Asp
 50              55              60

Asp Asp Arg Asp Val Ala Leu Gln Ile His Phe Thr Leu Ile Gln Ala
 65              70              75              80

Phe Cys Cys Glu Asn Asp Ile Asn Ile Leu Arg Val Ser Asn Pro Gly
 85              90              95

Arg Leu Ala Glu Leu Leu Leu Leu Glu Thr Asp Ala Gly Pro Ala Ala
100              105              110

Ser Glu Gly Ala Glu Gln Pro Pro Asp Leu His Cys Val Leu Val Thr
115              120              125

Asn Pro His Ser Ser Gln Trp Lys Asp Pro Ala Leu Ser Gln Leu Ile
130              135              140

Cys Phe Cys Arg Glu Ser Arg Tyr Met Asp Gln Trp Val Pro Val Ile
145              150              155              160

```

Asn Leu Pro Glu Arg  
165

<210> 7  
<211> 1224  
<212> DNA  
<213> Mus musculus

<400> 7  
cagtggcccc gaggcagcag tgcagagttc cccagcgagg ctaggcgagc agccggccgg 60  
ccggagcggg gaagggaggg tgggagcgag cgcagagccg gcgccgcgca ctgtgggggc 120  
caggagcagc ccgcgcgccg agggagggac tcgcacttgc aatatgactt tggaggaatt 180  
ctcggctgca gagcagaaga ccgaaaggat ggacacgggtg ggcgatgccc tggaggaagt 240  
gctcagcaag gctcggagtc agcgcaccat tacggtcggc gtgtacgagg ctgccaaagt 300  
gctcaacgta gaccccgata acgtggtact gtgacctgct gctgctgacg aagacgacga 360  
ccgggatgtg gctctgcaga tccatttcac cctcatccgt gcgttctgct gcgagaacga 420  
catcaacatc ctgccgggtca gcaaccgggg tcggctagct gagctgctgc tactggagaa 480  
cgacgcgggc ccggcgagga gcggggggcg cgcgagacc ccggacctgc actgtgtgct 540  
ggtgacgaac ccacattcat cacaatggaa ggatcctgcc ttaagtcaac ttatttgttt 600  
ttgccgggaa agtcgctaca tggatcagtg ggtgcccgtg attaatctcc cggaacgggtg 660  
atggcatccg aatggaaata actgaaccaa attgcaactga agttttgaaa tacctttgta 720  
gttactcaag cagtcactcc ccacgctgat gcaaggatta cagaaactga tgtcaagggg 780  
ccgagttcaa ctgcacgagg gctcagagat gactttgcag agggagagag aggtgagcct 840  
gaagaaggaa gctgcgagaa aagagaaatc caaggcaaaa gggacaaaaa ctacaaagca 900  
ctgcaagaaa gaaaactgct aatttaggat ggccagggtta ctttcaaata agccaaatat 960  
tgctttgttg aaactttaaa tgtatagcaa tagtttggtt attttttttc tttttttttt 1020  
ttggtcttta tgccctcaaa taaaaggaaa gtaaaaggagg attaatacata ttttcaagcc 1080  
acagtttaaa tgtattttga tgagatgtta aattctcaga agttttatta taaatcttac 1140  
taagttattt tatgatgtga aaggttattt atgataaagt ttttgaagca cattatctaa 1200  
aataaactgg tatggaataa ttgt 1224

<210> 8  
<211> 165  
<212> PRT  
<213> Mus musculus

<400> 8  
Met Thr Leu Glu Glu Phe Ser Ala Ala Glu Gln Lys Thr Glu Arg Met  
1 5 10 15  
Asp Thr Val Gly Asp Ala Leu Glu Glu Val Leu Ser Lys Ala Arg Ser  
20 25 30  
Gln Arg Thr Ile Thr Val Gly Val Tyr Glu Ala Ala Lys Leu Leu Asn  
35 40 45  
Val Asp Pro Asp Asn Val Val Leu Cys Leu Leu Ala Ala Asp Glu Asp  
50 55 60  
Asp Asp Arg Asp Val Ala Leu Gln Ile His Phe Thr Leu Ile Arg Ala  
65 70 75 80  
Phe Cys Cys Glu Asn Asp Ile Asn Ile Leu Arg Val Ser Asn Pro Gly  
85 90 95

Arg Leu Ala Glu Leu Leu Leu Leu Glu Asn Asp Ala Gly Pro Ala Glu  
 100 105 110

Ser Gly Gly Ala Ala Gln Thr Pro Asp Leu His Cys Val Leu Val Thr  
 115 120 125

Asn Pro His Ser Ser Gln Trp Lys Asp Pro Ala Leu Ser Gln Leu Ile  
 130 135 140

Cys Phe Cys Arg Glu Ser Arg Tyr Met Asp Gln Trp Val Pro Val Ile  
 145 150 155 160

Asn Leu Pro Glu Arg  
 165

<210> 9  
 <211> 1078  
 <212> DNA  
 <213> Homo sapiens

<400> 9  
 cactcgctgg tgggtgggtgc gccgtgctga gctctggctg tcagtgtgtt cgcccgcgtc 60  
 ccctccgcgc tctccgcttg tggataacta gctgctgggt gatcgacta tgactctgga 120  
 agaagtccgc ggccaggaca cagttccgga aagcacagcc aggatgcagg gtgccgggaa 180  
 agcgctgcat gagttgctgc tgtcggcgca gcgtcagggc tgcctcactg ccggcgtcta 240  
 cgagtcagcc aaagtcttga acgtggaccc cgacaatgtg accttctgtg tgctggctgc 300  
 ggggtgaggag gacgagggcg acatcgcgct gcagatccat ttacgctga tccaggcttt 360  
 ctgctgcgag aacgacatcg acatagtgcg cgtgggcgat gtgcagcggc tggcggctat 420  
 cgtgggcgcc ggcgaggagg cgggtgcgcc gggcgacctg cactgcatcc tcatttcgaa 480  
 cccaacagag gacgcctgga aggatccgc cttggagaag ctgagcctgt tttgcgagga 540  
 gagccgcagc gttaacgact gggtgcccag catcaccctc cccgagtgac agcccggcgg 600  
 ggaccttggc ctgatcgacg tggtgacgcc ccggggcgcc tagagcgagg ctggctctgt 660  
 ggagggggccc tccgagggtg cccgagtgcg gcgtggagac tggcaggcgg ggggggcgcc 720  
 tggagagcga ggaggcgcg cctcccagg agggggccgg tggcggcagg gccaggctgg 780  
 tccgagctga ggactctgca agtgtctgga gcggctgctc gcccaggaag gcctaggcta 840  
 ggacgttggc ctgaggcca ggaaggacag actggccggg caggcgtgac tcagcagcct 900  
 gcgctcggca ggaaggagcg gcgccctgga cttggtacag tttcaggagc gtgaaggact 960  
 taaccgactg ccgctgcttt ttcaaaacgg atccgggcaa tgcttcgttt tctaaaggat 1020  
 gctgctgttg aagctttgaa ttttacaata aactttttga aacaaaaaaa aaaaaaaa 1078

<210> 10  
 <211> 159  
 <212> PRT  
 <213> Homo sapiens

<400> 10  
 Met Thr Leu Glu Glu Val Arg Gly Gln Asp Thr Val Pro Glu Ser Thr  
 1 5 10 15

Ala Arg Met Gln Gly Ala Gly Lys Ala Leu His Glu Leu Leu Leu Ser  
 20 25 30

Ala Gln Arg Gln Gly Cys Leu Thr Ala Gly Val Tyr Glu Ser Ala Lys  
 35 40 45

Val Leu Asn Val Asp Pro Asp Asn Val Thr Phe Cys Val Leu Ala Ala  
 50 55 60

Gly Glu Glu Asp Glu Gly Asp Ile Ala Leu Gln Ile His Phe Thr Leu  
 65 70 75 80

Ile Gln Ala Phe Cys Cys Glu Asn Asp Ile Asp Ile Val Arg Val Gly  
 85 90 95

Asp Val Gln Arg Leu Ala Ala Ile Val Gly Ala Gly Glu Glu Ala Gly  
 100 105 110

Ala Pro Gly Asp Leu His Cys Ile Leu Ile Ser Asn Pro Asn Glu Asp  
 115 120 125

Ala Trp Lys Asp Pro Ala Leu Glu Lys Leu Ser Leu Phe Cys Glu Glu  
 130 135 140

Ser Arg Ser Val Asn Asp Trp Val Pro Ser Ile Thr Leu Pro Glu  
 145 150 155

<210> 11  
 <211> 1084  
 <212> DNA  
 <213> Mus musculus

<400> 11  
 cggcaccgagc ggcgcatcgga ctctgggaat ctttacctgc gctcgggttc cctccgcact 60  
 cttttggata acttgctgtt cgtggatcgc acaatgactc tggaagaagt ccgtggccag 120  
 gatacagttc cggaaagcac agccaggatg cagggcgccg ggaaagcact gcacgaactt 180  
 ctgctgtcgg cgacaggcca gggctgtctg accgctggcg tctacgagtc cgccaaagtc 240  
 ctgaatgtgg accctgacaa tgtgaccttt tgcgtgctgg ctgccgatga agaagatgag 300  
 ggcgacatag cgctgcagat ccattttcacg ttgattcagg cgttctgctg tgagaacgac 360  
 attgatatcg tgcgcgtggg agacgtgcag aggcctggcg cgatcgtggg cgccgacgaa 420  
 gaggggggcg cgccgggaga cctgcattgc atcctcattt cgaatcctaa tgaggacaca 480  
 tggaaggacc ctgccttgga gaagctcagt ttgttctgcg aggagagccg cagcttcaac 540  
 gactgggtgc ccagcatcac ccttcccagag tgacagcctg gcagggacct tggctctgatc 600  
 gacttggtga cactctagcg cgctgctggc tctggagtgg ccctccgagg gcgctcgagt 660  
 gcgcgtggag actggcaggc gatgttgctt ggagagcgag gagcgcggcc tcccaagaag 720  
 ggggtctggc ggcagcgggg acacctgtt ccgagcccag gactctgcca gtgtccggag 780  
 aggctgctag cacaggaagg cctaggcgag gacgttggcc ccagggccgg gaagaaccga 840  
 ccagcgaggc aggtgtgact cagcaagcag ccttccagtg aaaggagggg aaagaaaggc 900  
 aggcgaccgc ctggacttgg tacagcggca ggagcggcca ctgcaggagc gagctggact 960  
 tagccgactg cactgctctt tcaaaaaaacg gatcccgggc aatgctttca ttttctaaag 1020  
 gacgctatcg tggaagcttt gaatatcaca ataaacttat tgaaacaaaa aaaaaaaaaa 1080  
 aaaa 1084

<210> 12  
 <211> 159  
 <212> PRT  
 <213> Mus musculus

<400> 12  
 Met Thr Leu Glu Glu Val Arg Gly Gln Asp Thr Val Pro Glu Ser Thr  
 1 5 10 15

Ala Arg Met Gln Gly Ala Gly Lys Ala Leu His Glu Leu Leu Leu Ser  
                   20                                  25                                  30

Ala His Gly Gln Gly Cys Leu Thr Ala Gly Val Tyr Glu Ser Ala Lys  
                   35                                  40                                  45

Val Leu Asn Val Asp Pro Asp Asn Val Thr Phe Cys Val Leu Ala Ala  
                   50                                  55                                  60

Asp Glu Glu Asp Glu Gly Asp Ile Ala Leu Gln Ile His Phe Thr Leu  
                   65                                  70                                  75                                  80

Ile Gln Ala Phe Cys Cys Glu Asn Asp Ile Asp Ile Val Arg Val Gly  
                                   85                                  90                                  95

Asp Val Gln Arg Leu Ala Ala Ile Val Gly Ala Asp Glu Glu Gly Gly  
                                   100                                  105                                  110

Ala Pro Gly Asp Leu His Cys Ile Leu Ile Ser Asn Pro Asn Glu Asp  
                   115                                  120                                  125

Thr Trp Lys Asp Pro Ala Leu Glu Lys Leu Ser Leu Phe Cys Glu Glu  
                   130                                  135                                  140

Ser Arg Ser Phe Asn Asp Trp Val Pro Ser Ile Thr Leu Pro Glu  
                   145                                  150                                  155

<210> 13  
 <211> 33  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Primer

<400> 13  
 ctagaggaac gcggaagtgg tggaagtggg gga 33

<210> 14  
 <211> 40  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Primer

<400> 14  
 gtacaaggga agtggtggaa gtgtggaatg actttggagg 40

<210> 15  
 <211> 22  
 <212> DNA  
 <213> Artificial Sequence



<220>  
 <223> Description of Artificial Sequence: Primer  
  
 <400> 15  
 attgcgtggc caggatacag tt 22  
  
 <210> 16  
 <211> 39  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence: Primer  
  
 <400> 16  
 ggataacgcg tcaccgtcct caaacttacc aaacgttta 39  
  
 <210> 17  
 <211> 41  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence: Primer  
  
 <400> 17  
 ggatggatat ccgaaattaa tccaagaaga cagagatgaa c 41  
  
 <210> 18  
 <211> 38  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence: Primer  
  
 <400> 18  
 ggataacgcg ttagagctct ctggcttttc tagctgtc 38  
  
 <210> 19  
 <211> 41  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence: Primer  
  
 <400> 19  
 ggatggatat ccgaaattaa tccaagaaga cagagatgaa c 41  
  
 <210> 20  
 <211> 36  
 <212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Primer

<400> 20

ggataacgcg taaagcgcat gcctccagtg gccacg

36

<210> 21

<211> 41

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Primer

<400> 21

ggatggatat ccgaaattaa tccaagaaga cagagatgaa c

41

<210> 22

<211> 39

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Primer

<400> 22

ggataacgcg tcaccgtcct caaacttacc aaacgttta

39

<210> 23

<211> 39

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Primer

<400> 23

ggatggatat ccaagaggca aaaaaacctt cccgtgcga

39

<210> 24

<211> 38

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Primer

<400> 24

ggataacgcg ttagagctct ctggcttttc tagctgtc

38

<210> 25  
 <211> 39  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Primer

<400> 25  
 ggatggatat ccaagaggca aaaaaacctt cccgtgcga 39

<210> 26  
 <211> 12  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Primer

<400> 26  
 tagggactct cc 12

<210> 27  
 <211> 12  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Primer

<400> 27  
 aatattctct cc 12

<210> 28  
 <211> 10  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Primer

<400> 28  
 ggggattcca 10

<210> 29  
 <211> 10  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Primer

<400> 29  
 atcgattcca 10

<210> 30  
<211> 10  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Primer

<400> 30  
ggaaaccccg 10

<210> 31  
<211> 10  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Primer

<400> 31  
ggaaatattg 10

<210> 32  
<211> 43  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Primer

<400> 32  
gatctctagg gactctccgg ggacagcgag gggattccag acc 43

<210> 33  
<211> 27  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Primer

<400> 33  
gatctgaatt cgctggaaac cccgcac 27

<210> 34  
<211> 27  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Primer

<400> 34  
gatctgaatt ctacttactc tcaagac

27

<210> 35  
<211> 2695  
<212> DNA  
<213> Mus musculus

```

<400> 35
ggcctctggg atttttggtg tgttttaatc attccttttg actttctatg tgcattgggtg 60
ttttgcctgt atgcatgtct gtgtgagggt gtctgggtccc ctgaaattgg agttacggat 120
ggttgtgagc tgccatattg aaccctgttc ctctggaaga gcagctagtg ctcttaatct 180
ctgagccatt tctctgcccc tgctgtttgt tttgttttgg cttgttttgg tttcgtttcg 240
ttttggtttt tcgagacagg gtttctctgt gtagccctgg ctgtcctgga actcactctg 300
tagcccaggc tggcctcgaa ctcagaaatt cgctgcctc tgcctcccaa gtgctgggat 360
tgaaggcgtg tgccaccact gcctggcaac aaccagtgtt ctttaaggct gagacatctc 420
tctagcccca cccccagggt taaaacaggg tctcatttag ccagggtag tctcaaactc 480
actacatagc cctggatgat cctgacctac tgactgatct tccggtctct tccttcctag 540
ggctgggatg acaaatgtgt accaccatag gggtcgtgtg gtacaggggt ggaaaacagc 600
gcctcacaca tgctcagtac gtgctctgcc attgaacctat tgctacagtc cagcagccaa 660
tttagactat taaaatacac atctagttaa gtttacttat ttgtgtgtga ggacacagta 720
cactttggag taggtacgga gatcagaaga caattcgcag gagtcagctc gaaccctcca 780
tctgtggag gatgtcttgc ccttcatgtt tgatatttaa aatactgtat gtatagatta 840
ttccagggtg ggctatagcg gtatgtagat attgggtgat agcttgctag gcatcacgaa 900
gtcctggatt catcaccagc atcgaaaaaa aaattaataa aaaaaaaatc gctgggcagt 960
ggtagggccc gcctttaatc ccagcaagca ctagggaggc agaggcaggc ggatctcttg 1020
agttcgaggc cagcctgggtc tacagagtga gttccaggac agtcagggtc atacagagaa 1080
atctgtctca aaaaaaaaaa atcattccaa gtgttctctc cccctccctt 1140
tccggaagct gcgtgagcag agacctcatg aggccaccag gtgtcgcgcg cgcgcctctc 1200
acgccaggga catttcgcat gctgggtggg tggcgcggag gaagcaggat gcgtcaccag 1260
acccgggatc ggggatccg gggatccggg gaaccgagcc gcgcggccga ggccaggacc 1320
caggctggcg gaggaggcga ctcagggtga ttcaccggga gccccctgtc accgtgggag 1380
aatcccacgc ggtctatct gcctcgctcg tgtccttgct gtcgactacc agccctcaag 1440
ctgtggcttg gaacgccctt ggaagcctca gtttccattt tgcataatgc agatatcaat 1500
tcctttgcct gacaaatctt ggaaagataa atgacacgcg tggaaagaagg ggcttgtgct 1560
tcatgctacg cactacaaaa atgccaggga cataagagcg gctgcctttc agtcacctct 1620
ccccgggtca gtacccttcg ggttttgcca cttggcttcc ccctcagggg ttaagtgtgg 1680
cgaatcgatc tgaggataga cggtagaggc gccggcaggg ggcagggtca ctccgcagag 1740
cgtctggagg gctcttcacc tgcgcctccc gtgcacacgt gaaattctcg gggtagccgg 1800
aggagggaga aagggttcg gatctctccc cctgcgatcc cttagtgtc tgcagccagg 1860
acccctgggg caccgccaag ccacctacca cgacctag gaagcttcct gtgtgcctct 1920
cctcccgcga ccctggcctt agagggtga gcgttctcaa agcaccttcg tgctggcgat 1980
gctagggtgc cttggtagt ctcacttttg ggagaggatc ccaccgtcct caaacttacc 2040
aaacgtttac tgtataccct agacgttatt taaacactct ccaactctac aaggccggca 2100
gaacacttag taagcctcct ggcgcagtga catcccttct ttcagagctt gggaaaggct 2160
agggactctc cggggacagc gaggggattc cagacagccc tccccgaaag ttcaggccag 2220
cctctcgcgc tggaaaacccc gcgcgcggcc tgcgtagcgc ggctgccggg aaatcaggag 2280
agaaacttct gtggtttttt tttttttttt tttttttttt ttttctctct agagctctct 2340
ctctagagct ctctggcttt tctagctgtc gccgtgtgt gcgttcacgc tcctcccagc 2400
cctgaccccc acgtggggcc gccggagctc cgagctccgc cctttccatc tccagccaat 2460
ctcagcgcgg gatactcggc cctttgtgca tctaccaatg ggtggaaagc gcatgcctcc 2520
agtggccacg cctccaccg ggaagtcata taaaccgctc gcagcgcggc gcgctcact 2580
ccgcagcaac cctgggtctg cgttcatctc tgtcttcttg gattaatttc gaggggatt 2640
ttgcaatctt ctttttacc cttacttttt cttgggaagg gaagtccac cgct 2695

```

<210> 36  
<211> 10  
<212> DNA  
<213> Mus musculus

<400> 36  
gggactctcc 10

<210> 37  
<211> 16  
<212> DNA  
<213> Mus musculus

<400> 37  
ctagggactc tccggg 16

<210> 38  
<211> 10  
<212> DNA  
<213> Mus musculus

<400> 38  
ggggattcca 10

<210> 39  
<211> 16  
<212> DNA  
<213> Mus musculus

<400> 39  
cgaggggatt ccagac 16

<210> 40  
<211> 10  
<212> DNA  
<213> Mus musculus

<400> 40  
ggaaaccccg 10

<210> 41  
<211> 16  
<212> DNA  
<213> Mus musculus

<400> 41  
gctggaaacc ccgcgc 16

<210> 42  
<211> 5  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic peptide

<400> 42  
Val Asp Val Ala Asp  
1

<210> 43  
<211> 4  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic peptide

<400> 43  
Asp Glu Val Asp  
1

<210> 44  
<211> 4  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic peptide

<400> 44  
Val Glu Ile Asp  
1

<210> 45  
<211> 4  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic peptide

<400> 45  
Ile Glu Thr Asp  
1

<210> 46  
<211> 4  
<212> PRT  
<213> Artificial Sequence

&lt;220&gt;

&lt;223&gt; Description of Artificial Sequence: Synthetic peptide

&lt;400&gt; 46

Leu Glu His Asp

1

&lt;210&gt; 47

&lt;211&gt; 27

&lt;212&gt; DNA

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; Description of Artificial Sequence: Synthetic oligonucleotide

&lt;400&gt; 47

cgccaccatg gagatggtga acaccat

27

&lt;210&gt; 48

&lt;211&gt; 33

&lt;212&gt; DNA

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; Description of Artificial Sequence: Synthetic oligonucleotide

&lt;400&gt; 48

gtacaagggt atggctatgt caatgggagg tag

33

&lt;210&gt; 49

&lt;211&gt; 1392

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 49

```

aattcggcac gaggtgtttg tctgccggac tgaacggcgg cggggcgggtg cgcggcggcg 60
gtggcggcgg ggaagatggc ggcgctcctcc ctggaacaga agctgtcccg cctggaagca 120
aagctgaagc aggagaaccg ggaggcccgg cggaggatcg acctcaacct ggatatcagc 180
ccccagcggc ccaggcccac cctgcagctc ccgctggcca acgatggggg cagccgctcg 240
ccatcctcag agagctcccc gcagcaccoc acgccccccg cccggccccg ccacatgctg 300
gggctcccg caaccctgtt cacaccccg agcatggaga gcattgagat tgaccacaag 360
ctgcaggaga tcatgaagca gacgggctac ctgaccatcg ggggccagcg ctaccaggca 420
gaaatcaacg acctggagaa cttgggagcg atgggcagcg gcacctgcgg accggtgtgg 480
aagatgcgct tccggaagac cggccacgtc attgccgtta agcaaagtcg gcgctccggg 540
aacaaggagg agaacaagcg catcctcatg gacctggatg tgggtgctgaa gagccacgac 600
tgccccctaca tcgtgcagtg ctttgggacg ttcatcacca acacggacgt cttcatcgcc 660
atggagctca tgggcacctg cgctgagaag ctcaagaagc ggatgcaggg ccccatcccc 720
gagcgcatc tgggcaagat gacagtggcg attgtgaagg cgctgtacta cctgaaggag 780
aagcacgggtg tcatccaccg cgacgtcaag cctccaaca tcctgctgga cgagcggggc 840
cagatcaagc tctgcgactt cggcatcagc ggccgcctgg tggactccaa agccaagacg 900
cggagcgccg gctgtgccgc ctacatggca cccgagcgca ttgaccccc agacccccacc 960
aagccggact atgacatccg ggccgacgta tggagcctgg gcattctcgtt ggtggagctg 1020

```



```

gcaacaggac agtttccta caagaactgc aagacggact ttgaggtcct caccaaagtc 1080
ctacaggaag agcccccgct tctgcccgga cacatgggct tctcggggga cttccagtcc 1140
ttcgtcaaag actgccttac taaagatcac aggaagagac caaagtataa taagctactt 1200
gaacacagct tcatcaagcg ctacgagacg ctggagggtgg acgtggcgctc ctgggttcaag 1260
gatgtcatgg cgaagacctg agtcaccgcg gactaacggc gttccttgag ccagccccac 1320
cttggcccct tcttcaggtt agcttgcttt ggccggcggc caaccctctt ggggggcccag 1380
ggcattggcc cc 1392

```

<210> 50

<211> 401

<212> PRT

<213> Homo sapiens

<400> 50

```

Met Ala Ala Ser Ser Leu Glu Gln Lys Leu Ser Arg Leu Glu Ala Lys
 1          5          10          15

Leu Lys Gln Glu Asn Arg Glu Ala Arg Arg Arg Ile Asp Leu Asn Leu
          20          25          30

Asp Ile Ser Pro Gln Arg Pro Arg Pro Thr Leu Gln Leu Pro Leu Ala
          35          40          45

Asn Asp Gly Gly Ser Arg Ser Pro Ser Ser Glu Ser Ser Pro Gln His
          50          55          60

Pro Thr Pro Pro Ala Arg Pro Arg His Met Leu Gly Leu Pro Ser Thr
          65          70          75          80

Leu Phe Thr Pro Arg Ser Met Glu Ser Ile Glu Ile Asp His Lys Leu
          85          90          95

Gln Glu Ile Met Lys Gln Thr Gly Tyr Leu Thr Ile Gly Gly Gln Arg
          100          105          110

Tyr Gln Ala Glu Ile Asn Asp Leu Glu Asn Leu Gly Glu Met Gly Ser
          115          120          125

Gly Thr Cys Gly Pro Val Trp Lys Met Arg Phe Arg Lys Thr Gly His
          130          135          140

Val Ile Ala Val Lys Gln Met Arg Arg Ser Gly Asn Lys Glu Glu Asn
          145          150          155          160

Lys Arg Ile Leu Met Asp Leu Asp Val Val Leu Lys Ser His Asp Cys
          165          170          175

Pro Tyr Ile Val Gln Cys Phe Gly Thr Phe Ile Thr Asn Thr Asp Val
          180          185          190

Phe Ile Ala Met Glu Leu Met Gly Thr Cys Ala Glu Lys Leu Lys Lys
          195          200          205

Arg Met Gln Gly Pro Ile Pro Glu Arg Ile Leu Gly Lys Met Thr Val
          210          215          220

```

Ala Ile Val Lys Ala Leu Tyr Tyr Leu Lys Glu Lys His Gly Val Ile  
 225 230 235 240

His Arg Asp Val Lys Pro Ser Asn Ile Leu Leu Asp Glu Arg Gly Gln  
 245 250 255

Ile Lys Leu Cys Asp Phe Gly Ile Ser Gly Arg Leu Val Asp Ser Lys  
 260 265 270

Ala Lys Thr Arg Ser Ala Gly Cys Ala Ala Tyr Met Ala Pro Glu Arg  
 275 280 285

Ile Asp Pro Pro Asp Pro Thr Lys Pro Asp Tyr Asp Ile Arg Ala Asp  
 290 295 300

Val Trp Ser Leu Gly Ile Ser Leu Val Glu Leu Ala Thr Gly Gln Phe  
 305 310 315 320

Pro Tyr Lys Asn Cys Lys Thr Asp Phe Glu Val Leu Thr Lys Val Leu  
 325 330 335

Gln Glu Glu Pro Pro Leu Leu Pro Gly His Met Gly Phe Ser Gly Asp  
 340 345 350

Phe Gln Ser Phe Val Lys Asp Cys Leu Thr Lys Asp His Arg Lys Arg  
 355 360 365

Pro Lys Tyr Asn Lys Leu Leu Glu His Ser Phe Ile Lys Arg Tyr Glu  
 370 375 380

Thr Leu Glu Val Asp Val Ala Ser Trp Phe Lys Asp Val Met Ala Lys  
 385 390 395 400

Thr

<210> 51  
 <211> 2313  
 <212> DNA  
 <213> Mus musculus

<400> 51  
 gggtgtcaga ctcaacgcag tgagtctgta aaaggctcta acatgcagga gcctttgacc 60  
 tcgtgccgaa ttcggcacga gggaggatcg acctcaactt ggatatcagc ccacagcggc 120  
 ccaggccac cctgcaactc ccactggcca acgatggggg cagccgctca ccaccctcag 180  
 agagctcccc acagaccctt acacccccca cccggccccg ccacatgctg gggctcccat 240  
 caaccttggt cacaccgcgc agtatggaga gcacgcagat tgaccagaag ctgcaggaga 300  
 tcatgaagca gacagggtag ctgactatcg ggggcccagc ttatcaggca gaaatcaatg 360  
 acttgagaa cttgggtgag atgggcagtg gtacctgtgg tcaggtgtgg aagatgcggt 420  
 tccggaagac aggccacatc attgctgtta agcaaagcgc gcgctctggg aacaaggaag 480  
 agaataagcg cttttgatg gacctggatg tagtactcaa gagccatgac tgcccttaca 540  
 tcgttcagt ctttggcacc ttcatacaca acacagacgt ctttattgcc atggagctca 600  
 tggcatatg tgcagagaag ctgaagaaac gaatgcaggg cccattcca gagcgaatcc 660  
 tgggcaagat gactgtggcg attgtgaaag cactgtacta tctgaaggag aagcatggcg 720  
 tcatccatcg cgatgtcaaa ccctccaaca tcctgctaga tgagcggggc cagatcaagc 780  
 tctgtgactt tggcatcagt ggccgccttg ttgactccaa agccaaaaca cggagtgcgt 840  
 gctgtgctgc ctatatggct cccgagcgca tcgacctcc agatccacc aagcctgact 900  
 atgacatccg agctgatgtg tggagcctgg gcactctact ggtggagctg gcaacaggac 960

```

agttccccta taagaactgc aagacggact ttgaggtcct caccaaagtc ctacaggaag 1020
agccccact cctgcctggt cacatgggct tctcagggga cttccagtca tttgtcaaag 1080
actgccttac taaagatcac aggaagagac caaagtataa taagctactt gaacacagct 1140
tcatcaagca ctatgagata ctcgaggtgg atgtcgcgtc ctggtttaag gatgtcatgg 1200
cgaagaccga ttccccaagg actagtggag tcttgagtca gcaccatctg cccttcttca 1260
ggtagcctca tggcagcggc cagccccgca ggggccccgg gccacggcca ccgaccccc 1320
ccccaacctg gccaaccag ctgcccata ggggacctgg ggacctggac gactgccaag 1380
gactgaggac agaaagtagg gggttcccat ccagctctga ctccctgcct accagctgtg 1440
gacaaaaggg catgctggtt cctaaccctt cccactctgg ggtcagccag cagtgtgagc 1500
cccatccac cccgacagac actgtgaacg gaagacagca ggccatgagc agactcgcta 1560
tttattcaat cataacctct gggctggggg aacccccagg ggcagagaga cggcacgagc 1620
tcaaaccaac tctgagtatg gaactctcag gctctctgaa ctctgacctt atctcctgga 1680
ctcactcacc aacagtgacc acttgatctt ttaacagacc tcagcacttc cagcacactg 1740
ctggtgggag ccttgacctc actatagtct caaacacaac aacaacaaca acaataataa 1800
caacaacaac aacaacaaca acaagctgcc tctgggttagc ttactgcatg cttccctcag 1860
ctcttgagta tcgctttctg ggagggttcc tcgaggtccc tggacggatg acttcccagc 1920
atcgttcact gcacttacta tgacttgaca taatatgcac cacattttgt gattgcaaga 1980
tacacatttg tcttaaaatt tgccacagct gaaacaaagg gtatattaaa ggtataacgt 2040
caaagcttgt accaagcttt ctactgggtc tgtggggggt tcagccgggtg cttggaatac 2100
tatcaactgg aggaactgt tcaagtgttc tgttttagacc aactgggaca gaaaacagat 2160
acctatgggg tgaggttctt attctcaggg tttgtttgtt tgtttgtttg tttgtttgtt 2220
tttcagtgc aattagagac agttcatgtt ttcttcagtg tgtttttttc tgggggggata 2280
attctggctt tgtttatctc tcgtgccgaa ttc 2313

```

<210> 52

<211> 346

<212> PRT

<213> Mus musculus

<400> 52

```

Met Leu Gly Leu Pro Ser Thr Leu Phe Thr Pro Arg Ser Met Glu Ser
  1                      5                      10          15

Ile Glu Ile Asp Gln Lys Leu Gln Glu Ile Met Lys Gln Thr Gly Tyr
      20                      25                      30

Leu Thr Ile Gly Gly Gln Arg Tyr Gln Ala Glu Ile Asn Asp Leu Glu
      35                      40                      45

Asn Leu Gly Glu Met Gly Ser Gly Thr Cys Gly Gln Val Trp Lys Met
      50                      55                      60

Arg Phe Arg Lys Thr Gly His Ile Ile Ala Val Lys Gln Met Arg Arg
      65                      70                      75          80

Ser Gly Asn Lys Glu Glu Asn Lys Arg Ile Leu Met Asp Leu Asp Val
      85                      90                      95

Val Leu Lys Ser His Asp Cys Pro Tyr Ile Val Gln Cys Phe Gly Thr
      100                     105                     110

Phe Ile Thr Asn Thr Asp Val Phe Ile Ala Met Glu Leu Met Gly Ile
      115                     120                     125

Cys Ala Glu Lys Leu Lys Lys Arg Met Gln Gly Pro Ile Pro Glu Arg
      130                     135                     140

```

Ile	Leu	Gly	Lys	Met	Thr	Val	Ala	Ile	Val	Lys	Ala	Leu	Tyr	Tyr	Leu
145					150					155					160
Lys	Glu	Lys	His	Gly	Val	Ile	His	Arg	Asp	Val	Lys	Pro	Ser	Asn	Ile
				165					170					175	
Leu	Leu	Asp	Glu	Arg	Gly	Gln	Ile	Lys	Leu	Cys	Asp	Phe	Gly	Ile	Ser
			180					185					190		
Gly	Arg	Leu	Val	Asp	Ser	Lys	Ala	Lys	Thr	Arg	Ser	Ala	Gly	Cys	Ala
		195					200					205			
Ala	Tyr	Met	Ala	Pro	Glu	Arg	Ile	Asp	Pro	Pro	Asp	Pro	Thr	Lys	Pro
	210					215					220				
Asp	Tyr	Asp	Ile	Arg	Ala	Asp	Val	Trp	Ser	Leu	Gly	Ile	Ser	Leu	Val
225					230					235					240
Glu	Leu	Ala	Thr	Gly	Gln	Phe	Pro	Tyr	Lys	Asn	Cys	Lys	Thr	Asp	Phe
				245					250					255	
Glu	Val	Leu	Thr	Lys	Val	Leu	Gln	Glu	Glu	Pro	Pro	Leu	Leu	Pro	Gly
			260					265						270	
His	Met	Gly	Phe	Ser	Gly	Asp	Phe	Gln	Ser	Phe	Val	Lys	Asp	Cys	Leu
		275					280					285			
Thr	Lys	Asp	His	Arg	Lys	Arg	Pro	Lys	Tyr	Asn	Lys	Leu	Leu	Glu	His
	290					295					300				
Ser	Phe	Ile	Lys	His	Tyr	Glu	Ile	Leu	Glu	Val	Asp	Val	Ala	Ser	Trp
305					310					315					320
Phe	Lys	Asp	Val	Met	Ala	Lys	Thr	Asp	Ser	Pro	Arg	Thr	Ser	Gly	Val
				325					330					335	
Leu	Ser	Gln	His	His	Leu	Pro	Phe	Phe	Arg						
			340					345							

&lt;210&gt; 53

&lt;211&gt; 6

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

<223> Description of Artificial Sequence: Synthetic  
6X-His tag

&lt;400&gt; 53

His His His His His His

1

5